

Amendment  
Serial No. 10/783,804

Docket 5000-1-526

**IN THE CLAIMS:**

*Please amend the claims as follows:*

1. (Currently Amended) An optical subscriber network system comprising:  
a server bi-directional optical transmitter including  
a multiplexer to multiplexes communication data and broadcast data;  
a server laser diode to converts the multiplexed data into an optical signal; and  
a server photo diode to receive communication data from a subscriber,  
wherein the server bi-directional optical transmitter transmits the upstream communication data;  
a first PHY device to convert the communication data received from the server photo diode into a media independent interface type (MII) signal; and  
an Ethernet switch couple to the first PHY device, the multiplexer and a second PHY device; and  
a subscriber bi-directional optical receiver including  
a subscriber laser diode to transmit upstream communication data,  
a subscriber photo diode to receive the optical signal transmitted from the server bi-directional optical transmitter, and  
a demultiplexer to demultiplex and divide the multiplexed signal into communication data and broadcast data.
2. (Currently Amended) The optical subscriber network system as claimed in claim 1, wherein the multiplexer and demultiplexer are a time division multiplexer

Amendment  
Serial No. 10/783,804

Docket 5000-1-526

(TDM) and demultiplexer (TDDM), respectively.

3. (Original) The optical subscriber network system as claimed in claim 2, wherein the communication data is received from a server computer.

4. (Original) The optical subscriber network system as claimed in claim 1, wherein the server bi-directional optical transmitter transmits the upstream communication data to the server computer.

5. (Currently Amended) The optical subscriber network system as claimed in claim ~~4~~2, wherein the subscriber bi-directional optical receiver providing the communication data divided by the TDDM to a subscriber-side computer.

6. (Currently Amended) ~~The~~An optical subscriber network system ~~comprising: as claimed in claim 6, wherein the~~

a subscriber bi-directional optical receiver including~~comprises:~~

\_\_\_\_\_an Ethernet switch configured to (1) switch the communication data transmitted from the ~~a~~ demultiplexer to a subscriber computer, and (2) receive the communication data transmitted from the subscriber computer;

\_\_\_\_\_a ~~third~~first PHY device coupled to the demultiplexer to convert the communication data with a media independent interface type (MII type) into a TX signal;  
and

\_\_\_\_\_a ~~second~~ ~~a fourth~~ PHY device to convert the TX signal into a MII signal

Amendment  
Serial No. 10/783,804

Docket 5000-1-526

for the Ethernet switch, and to convert a MII signal from the Ethernet switch into a TX

signal for to the subscriber laser diode; and

a third PHY device for converting the MII signal into a multi level transmit-3 (MLT-3) signal;

wherein, the TX signal output from the ~~second~~<sup>fourth</sup> PHY device is used to operate the ~~first~~<sup>third</sup> PHY device.

7. (Canceled)

8. (Currently amended) The optical subscriber network system as claimed in claim 5, wherein the subscriber bi-directional optical receiver comprises:

an Ethernet switch to (1) switch the communication data from the demultiplexer to a subscriber-side computer, and (2) receive the communication data from the subscriber computer; and

a third PHY device coupled to the demultiplexer to convert the communication data with a MII type into a TX signal for the Ethernet switch, and convert a MII signal from the Ethernet switch into a TX signal for the subscriber laser diode,

wherein, the TX signal from the Ethernet switch is used to operate the third PHY device.

9. (Currently Amended )The optical subscriber network system as claimed in claim 5, wherein the first PHY device converts a 100 Base-T optical fiber signal into a MII signal, and the second PHY device converts a media independent interface (MII)

Amendment  
Serial No. 10/783,804

Docket 5000-1-526

signal into a multi level transmit-3 (MLT-3) signal.

10. (Original) The optical subscriber network system as claimed in claim 5, wherein the TDM inserts a plurality of broadcast data streams and communication data into time slots and generates time slot frames.

11. (New) The optical subscriber network system as claimed in claim 1, wherein subscriber bi-directional optical receiver further comprising:

a third PHY device to converting a media independent interface (MII) signal input from an Ethernet switch into a FX signal and output the FX signal to the subscriber laser diode.

12. (New) The optical subscriber network system as claimed in claim 11, wherein the FX signal is a non return to zero inversion (NRZI) signal.